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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
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09/651,431 08/30/00 STREUBEL

W BO-107

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IM52/0322

EXAMINER

WILKINS III, H

ART UNIT

PAPER NUMBER

1742

DATE MAILED:

03/22/01

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

<p align="center">Office Action Summary</p>	<p>Application No.</p> <p>09/651,431</p>	<p>Applicant(s)</p> <p>STREUBEL ET AL.</p>	
	<p>Examiner</p> <p>Harry D Wilkins, III</p>	<p>Art Unit</p> <p>1742</p>	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-13 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claims ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are objected to by the Examiner.
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

- | | |
|---|--|
| 15) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 18) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). ____. |
| 16) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 19) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 17) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) ____. | 20) <input type="checkbox"/> Other: |

DETAILED ACTION

Drawings

1. Figures 1-5 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g).
2. Applicant is required to submit a proposed drawing correction in reply to this Office action. However, formal correction of the noted defect can be deferred until the application is allowed by the examiner.
3. The corrected or substitute drawings were received on 18 December 2000. These drawings are acceptable except as noted above concerning the "prior art" label.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.
5. Claims 5 and 10 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 5 recites using a steel of the "specification 22MnB5" and claim 10 recites using a steel of the "specification C15". Neither of these steel types is further defined by the specification nor would one of ordinary skill in the art be able to determine the compositions to be used. To make the steels defined the "specification" must be defined by an industry standard, such as "ASTM" or "SUS" or the appropriate standard.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 1-4 and 6-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Toepker et al (EP 0 752332 A1) in view of Wassilew et al (EP 0 306609 A2) and Connelly (3,656,219) and Keen (3,934,443).

Toepker et al teach (see English abstract and figs. 1-5) a transverse support for a twist beam rear axle with a centrally located U-shaped cross section formed from a tube. The support would inherently be bending-resistant and torsionally yielding.

Toepker et al do not expressly disclose any processing method by which the support is made.

Wassilew et al teach (see English abstracts) a method of processing steels involving cold forming. Wassilew et al teach that the steel is first cold deformed into the desired shape, and then is subjected to annealing at about 950°C for at least 0.25 hours. After the annealing treatment the steel is subjected to hardening and tempering treatments. Wassilew et al teach (see col 1, 5th paragraph, orally translated by USPTO) that the hardening occurs at a temperature above the Ac1 temperature and gives an example where it occurs at 1075°C. The tempering step occurs at a temperature below the Ac1 temperature and has a typical duration of 1-2 hours.

Therefore, it would have been obvious to one of ordinary skill to produce the support as taught by Toepker et al by the method of Wassilew et al because the structure thus produced is free from delta ferrite which allows for greater deformation later in the process as taught by Wassilew et al (see English abstract).

Wassilew et al do not specifically teach that the hardening occurs in water. However, hardening in water at high temperatures would have been considered to be obvious because it is well known in the art as evidenced by Connelly (see col 4, line 16).

Toepker et al in view of Wassilew et al and Connelly do not expressly teach that the steel can then be subjected to outer surface hardening and further subjected to configuration processing.

Keen teaches (see col 1, lines 16-23) a tool that is useful for performing a surface hardening treatment on steel.

Therefore, it would have been obvious to one of ordinary skill in the art to perform surface hardening as taught by Keen on the steel as taught by Toepker et al in view of Wassilew et al and Connelly because Keen teaches that the surface hardening improves strength (see col 1, lines 16-18).

Toepker et al in view of Wassilew et al and Connelly and Keen do not expressly teach that the steel is then subjected to configuration processing steps for completing a twist beam rear axle. However, it would have been within the expected skill of a routineer in the art to have performed these configuration steps to create the desired end product as shown by Toepker et al in figs. 1-5.

Regarding claim 2, Wassilew et al teach (see English abstracts) that the annealing step may be carried out at about 950°C which is within the range 920 to 950°C.

Regarding claim 3, Wassilew et al teach (see English abstracts) that the annealing step may be carried out at about 950°C which is considered to be about 930°C.

Regarding claim 4, Wassilew et al teach (see col 1, 5th paragraph, orally translated by USPTO) that the tempering step occurs at a temperature below the Ac1 temperature, typically for 1-2 hours. However, it would have been within the expected skill of a routineer in the art to optimize the processing temperature and time for a given steel.

Regarding claims 6 and 7, Keen teaches (see col 1, lines 11-15) a method of surface hardening where the surface is bombarded by steel balls (i.e.-shot peening).

Regarding claim 8, it would have been within the expected skill of a routineer in the art to apply the annealing step as taught by Wassilew to only the sections of the support where the desired deformation ease was required (i.e.- the transitional sections between the central longitudinal section and the end sections).

8. Claims 9 and 11-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Toepker et al (EP 0 752332 A1) in view of Wassilew et al (EP 0 306609 A2) and Wardwell et al (3,769,103) and Keen (3,934,443).

Toepker et al teach (see English abstract and figs. 1-5) a transverse support for a twist beam rear axle with a centrally located U-shaped cross section formed from a tube. The support would inherently be bending-resistant and torsionally yielding.

Toepker et al do not expressly disclose any processing method by which the support is made.

Wassilew et al teach (see English abstracts) a method of processing steels involving cold forming. Wassilew et al teach that the steel is first cold deformed into the desired shape.

Therefore, it would have been obvious to one of ordinary skill in the art to have used the cold deformation step as taught by Wassilew et al to create the support as taught by Toepker et al because the cold deformation step shapes the tube into the desired shape for the support.

Wardwell et al teach (see abstract) a method of processing steels involving case hardening of steel. Wardwell et al teach (see col 1, lines 6-19) that case hardening of specific portions of a steel article is known to be carried out by heat treating in a special atmosphere, such as one enriched in carbon (i.e.-a carburizing atmosphere). The article is then quenched wherein a skin forms a hardened shell or case.

Therefore, it would have been obvious to one of ordinary skill to produce the support as taught by Toepker et al in view of Wassilew et al by the method of Wardwell et al because the case hardening process described by Wardwell (see col 1, lines 6-19) provides a steel that has high hardness in the effected areas.

Toepker et al in view of Wassilew et al and Wardwell et al do not expressly teach that the steel can then be subjected to outer surface hardening and further subjected to configuration processing.

Keen teaches (see col 1, lines 16-23) a tool that is useful for performing a surface hardening treatment on steel.

Therefore, it would have been obvious to one of ordinary skill in the art to perform surface hardening as taught by Keen on the steel as taught by Toepker et al in view of Wassilew et al and Wardwell et al because Keen teaches that the surface hardening improves strength (see col 1, lines 16-18).

Toepker et al in view of Wassilew et al and Wardwell et al and Keen do not expressly teach that the steel is then subjected to configuration processing steps for completing a twist beam rear axle. However, it would have been within the expected skill of a routineer in the art to have performed these configuration steps to create the desired end product as shown by Toepker et al in figs. 1-5.

Regarding claim 11, Wardwell et al teach (see col 1, lines 46-54) applying the case hardening to only the sections where the hardness is desired to be higher than normal. Therefore, it would have been obvious to one of ordinary skill in the art to apply the case hardening of Wardwell et al only to specific portions of the support of Toepker et al because Wardwell et al teach that the case hardening need only be applied to the sections where a higher hardness is desired (i.e.- the transitional sections between the central longitudinal section and the end sections).

Regarding claims 12 and 13, Keen teaches (see col 1, lines 11-15) a method of surface hardening where the surface is bombarded by steel balls (i.e.-shot peening).

Conclusion

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Swirnow (3,795,551) is cited because it is another reference which teaches case hardening of steels, similar to Wardwell et al.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Harry D Wilkins, III whose telephone number is 703-305-9927. The examiner can normally be reached on M-F 8:15am-4:45pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Roy V King can be reached on 703-308-1146. The fax phone numbers for the organization where this application or proceeding is assigned are 703-305-3599 for regular communications and 703-305-3599 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0661.

Harry D Wilkins, III
Examiner
Art Unit 1742

hdw
March 21, 2001


ROY KING
SUPERVISORY PATENT EXAMINER
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